Sound Cone Signals

Teacher-led build, test, and redesign activity for sound communication.

1-PS4-4 "Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. Clarification Statement: Examples of devices could include a light source to send signals..."

NAME _____ DATE _____

Teacher: this page is run aloud. The script and answers are on the guide page.

1 FIRST TEST

1	
2	

2 TEST AGAIN

1	
2	

ANSWER KEY

Sound Cone Signals

GRADE 1 · 1-PS4-4

HOW TO RUN THIS PAGE

Supply paper and paper clips. Partners build a sound cone and test it six big steps apart, switching sender/listener roles after Part 1. Quietly give only the sender each target word: GO then NO in Part 1, SIT then HOT in Part 2. The listener records what was actually heard before the target is revealed; accept dictated responses.

Students never read directions on this sheet. Read each part's script aloud, then each prompt, giving think time before students mark.

PART 1 · FIRST TEST

SAY "With your partner, roll paper into a sound cone and hold it with a paper clip. Stand six big steps apart. After each secret word, write what you heard in the matching box; write NONE if you heard nothing, or tell me so I can write it."

- Box 1 (beside 1): **Actual listener report, which may differ from sender target GO, or NONE. Reveal target only after recording; compare without marking an honest mismatch wrong.**
- Box 2 (beside 2): **Actual listener report, which may differ from sender target NO, or NONE. Reveal target only after recording; compare without marking an honest mismatch wrong.**

PART 2 · TEST AGAIN

SAY "Compare what was heard with what was sent. Change your cone opening to try to make the words clearer, then test again from the same places with the same speaking volume. In each box, write what you actually heard, or NONE; tell how the change worked."

- Box 1 (beside 1): **Actual listener report, which may differ from sender target SIT, or NONE. Reveal target only after recording; compare without marking an honest mismatch wrong.**
- Box 2 (beside 2): **Actual listener report, which may differ from sender target HOT, or NONE. Reveal target only after recording; compare without marking an honest mismatch wrong.**

WHAT TO ACCEPT

Accept actual build, test, record, change and retest participation. GO, NO, SIT and HOT are sender targets, not required listener answers. A different word, uncertainty or no sound is valid evidence. Keep distance and speaking volume the same to help compare cone changes; different target words mean these few trials cannot prove one design is always better. Discuss a further change if messages are still unclear.